

Supplementary Information: Tree height, microhabitat, and hydraulic traits shape drought responses in a temperate broadleaf forest

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Supplementary Information

Table S1: Species-specific bark thickness regression equations

Species	Equations	r.2
Carya cordiformis	$-1.56+0.416*x$	0.226
Carya glabra	$-0.393+0.268*x$	0.040
Carya ovalis	$-2.18+0.651*x$	0.389
Carya tomentosa	$-0.477+0.301*x$	0.297
Fagus grandifolia	$1*x$	NA
Fraxinus americana	$0.418+0.268*x$	0.256
Juglans nigra	$0.346+0.279*x$	0.246
Liriodendron tulipifera	$-1.14+0.463*x$	0.545
Quercus alba	$-2.09+0.637*x$	0.603
Quercus prinus	$-1.31+0.528*x$	0.577
Quercus rubra	$-0.593+0.292*x$	0.087

Table S2: Species-specific height regression equations

Species	Equations	r.2
Carya cordiformis	$0.391+0.805*x$	0.899
Carya glabra	$0.654+0.728*x$	0.890
Carya ovalis	$0.939+0.641*x$	0.922
Carya tomentosa	$0.851+0.682*x$	0.890
Fagus grandifolia	$0.574+0.713*x$	0.887
Liriodendron tulipifera	$1.21+0.559*x$	0.760
Quercus alba	$2.07+0.318*x$	0.523
Quercus prinus	$0.594+0.713*x$	0.799
Quercus rubra	$1.42+0.473*x$	0.832
all	$0.946+0.621*x$	0.868

Table S3: Candidate variables for best model

prediction	variable	variable_description	top_model
1.2	position_all	crown position with H	1999
2.2	height.ln.m	ln[H]	all
2.2	height.ln.m	ln[H]	1966
2.3	position_all	crown position alone	1966
2.4	TWI.ln	ln[TWI]	all
2.4	TWI.ln	ln[TWI]	1977
2.4	TWI.ln	ln[TWI]	1999
3.1	rp	ring porosity	1999
3.2	PLA_dry_percent	PLA	all
3.2	PLA_dry_percent	PLA	1966
3.4	mean_TLP_Mpa	TLP	all
3.4	mean_TLP_Mpa	TLP	1977

Table S4. Correlation of species' traits with tree height across all individuals in the ForestGEO plot

variable	model	coefficient	p-value
WD	WD~ln[H]	-0.16	0
LMA	LMA~ln[H]	7.86	0
ring porosity	ring porosity~ln[H]	0.34	0
PLA	PLA~ln[H]	1.37	0
TLP	PLA~ln[H]	0.13	0

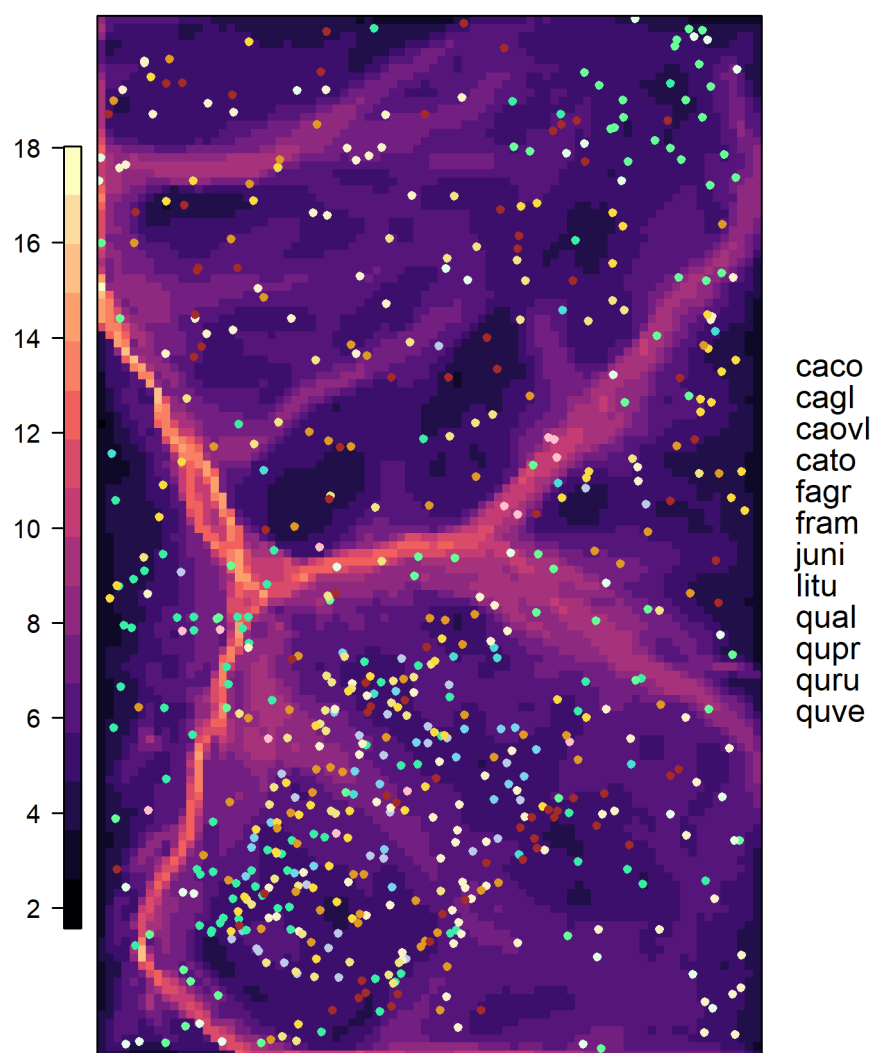


Figure S1: Map of ForestGEO plot showing TWI and location of cored trees